MOLECULAR NEURODEGENERATION

MEETING ABSTRACT Open Access

# Effects of an early- and late-stage treatment with Geniposide on cognitive dysfunction n a transgenic mouse model relevant to Alzheimer's disease

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## Background

Alzheimer's disease (AD) is an age-related, progressive neurodegenerative disorder that occurs gradually and results in memory, behavior and personality change. Geniposide, an iridoid glycosides isolated from the Traditional Chinese Medicine *Gardenia jasminoides.* Ellis, has been demonstrated to have neuroprotective effects.

## Method

The present report primarily studied the effects of geniposide on cognitive dysfunction in a double-transgenic AD mouse model (APP/PS1) on early and late stages. Male APP/PS1 mice aged 6 month and 12 month were given water, geniposide (25mg.kg$^{-1}$) once a day by oral gavage, and age-matched C57BL/6 mice were treated with water and geniposide (25mg.kg$^{-1}$). Aricept (0.75mg.kg$^{-1}$) was used in the positive control group. Morris water maze performance was assessed after 3 months of treatment.

## Result

The APP/PS1 mice had longer escape latency and lower percentage of activities in platform quadrant than the C57BL/6 mice ($p<0.05$) both in the early- and late-stage treatment. In addition, geniposide significantly improved learning deficits as well as Aricept, compared with vehicle control treatment ($p<0.05$).

## Conclusion

Geniposide can improve cognitive function of the double transgenic mouse model at early and late-stage of Alzheimer's disease, with a possible mechanism related with neuroprotective and anti-inflammatory activities. The study suggested that oral supplementation of geniposide might be a potential therapeutic strategy for the treatment of early- and late-stage of Alzheimer's disease.

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